

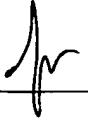


# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,154	03/28/2001	Hideo Nakamura	M1596-235	3953
7590	06/09/2004		EXAMINER	
Darby & Darby 805 Third Avenue 27th Floor New York, NY 10022			NGUYEN, LUONG TRUNG	
			ART UNIT	PAPER NUMBER
			2612	4
DATE MAILED: 06/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/820,154	NAKAMURA ET AL. 	
<b>Examiner</b>	<b>Art Unit</b>		
LUONG T NGUYEN	2612		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 March 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

2. The disclosure is objected to because of the following informalities:  
  
In the specification, page 17, line 9, "a shutter 35" should be changed to --an aperture 35--;  
  
On page 17, line 14, "an aperture 36" should be changed to --a mechanical shutter 36--;  
  
On page 18, line 12, "image date" should be changed to --image data--.  
  
Appropriate correction is required.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Objections***

4. Claims 7-24 are objected to because of the following informalities:

Art Unit: 2612

Claim 7 (Line 4), Claim 8 (Line 4), Claim 9 (Line 4), Claim 10 (line 4), Claim 11 (Line 4), Claim 12 (Line 4), Claim 19 (Line 5), Claim 20 (Line 5), Claim 21 (Line 5), “image capturing means” should be changed to --image capturing devices--.

Claim 7 (Line 5), Claim 8 (line 5), Claim 9 (Line 5), Claim 10 (Line 5), Claim 11 (Line 5), Claim 12 (Line 5), “a recording means” should be changed to --the recording means--.

Claim 7 (Lines 6, 7), Claim 8 (Lines 6, 7), Claim 9 (Lines 6, 7), Claim 10 (lines 6, 7), Claim 11 (Lines 6, 7), Claim 12 (Lines 6, 7), Claim 13 (Line 2), Claim 14 (Line 2), Claim 15 (Line 2), Claim 16 (Line 2), Claim 17 (Line 2), Claim 18 (Line 2), Claim 22 (Lines 4-5, 6-7), Claim 23 (Lines 4-5, 6-7), Claim 24 (Lines 4-5, 6-7), “image capturing means” should be changed to --image capturing device--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-12, 19-24, 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Kubo et al. (U. S. Patent No. 6,639,626).

Regarding claim 1, Kubo et al. discloses an image capturing apparatus including a first image capturing device (first image sensor 58, figure 10, Column 12, Lines 63-67); said first image capturing device having a first characteristic (size and number of pixels, 12, Lines 63-67); a second image capturing device (second image sensor 63, figure 10, Column 12, Lines 63-67); said second image capturing device having a second characteristic (size and number of pixels, Column 12, Lines 63-67); said first and second characteristics being different (different sizes and number of pixels, Column 12, Lines 63-67); a recording means for recording image data (memory card 92, Figure 10, Column 14, Lines 15-20); and a processing means (image processor 80, Figure 10, Column 14, Lines 57-67) for processing data of images captured by said first image capturing device and data of images captured by said second image capturing device in such a manner that the two types of images are treated as individual images that are independent of each other (Figure 15 shows two images formed by the first and second image sensors 58 and 63 are independent each other).

Regarding claim 2, Kubo et al. discloses an image capturing apparatus including a first image capturing device (first image sensor 58, figure 10, Column 12, Lines 63-67); a second image capturing device (second image sensor 63, figure 10, Column 12, Lines 63-67) having characteristics different from those of said first image capturing device (different sizes and number of pixels, Column 12, Lines 63-67); a recording means for recording image data (memory card 92, Figure 10, Column 14, Lines 15-20); and a processing means (image processor 80, Figure 10, Column 14, Lines 57-67) for processing data of images captured by said first image capturing device as still images (image data obtained by the first sensor 58 is compressed

Art Unit: 2612

and stored in memory card 92 (still image), Figure 10, Column 14, Lines 57-67) and data of images captured by said second image capturing device as still images or moving images (the image obtained from the second image sensor 63 is used as a preview image, which is displayed as motion picture (Column 12, Lines 40-44, Column 15, Lines 14-16).

Regarding claim 3, Kubo et al. discloses an image capturing apparatus including a first image capturing device (first image sensor 58, figure 10, Column 12, Lines 63-67); a second image capturing device (second image sensor 63, figure 10, Column 12, Lines 63-67) having characteristics different from those of said first image capturing device (different sizes and number of pixels, Column 12, Lines 63-67); a recording means for recording image data (memory card 92, Figure 10, Column 14, Lines 15-20); and a processing means (image processor 80, Figure 10, Column 14, Lines 57-67) for processing data of images captured by said first image capturing device as still images (image data obtained by the first sensor 58 is compressed and stored in memory card 92 (still image), Figure 10, Column 14, Lines 57-67) and data of images captured by said second image capturing device as moving images (the image obtained from the second image sensor 63 is used as a preview image, which is displayed as motion picture (Column 12, Lines 40-44, Column 15, Lines 14-16).

Regarding claim 4, Kubo et al. discloses said first image capturing device is used for still image recording (image data obtained by the first sensor 58 is compressed and stored in memory card 92 (still image), Figure 10, Column 14, Lines 57-67), and said second image capturing device is used for capturing moving images (the image obtained from the second image sensor

Art Unit: 2612

63 is used as a preview image, which is displayed as motion picture (Column 12, Lines 40-44, Column 15, Lines 14-16); said second image capturing device also providing preliminary measurement for use in still image recording (the image obtained from the second sensor 63 is used as preview image, and is displayed on the display panel 66 so as to allow the user to check (preliminary measurement) the picture of the object before the shutter release button is fully depressed (still image recording), Column 12, Lines 40-44).

Regarding claim 5, Kubo et al. discloses said first image capturing device is used for still image recording (image data obtained by the first sensor 58 is compressed and stored in memory card 92 (still image), Figure 10, Column 14, Lines 57-67), and said second image capturing device is used for capturing moving images (the image obtained from the second image sensor 63 is used as a preview image, which is displayed as motion picture (Column 12, Lines 40-44, Column 15, Lines 14-16); said second image capturing device also providing preliminary measurement for use in still image recording (the image obtained from the second sensor 63 is used as preview image, and is displayed on the display panel 66 so as to allow the user to check (preliminary measurement) the picture of the object before the shutter release button is fully depressed (still image recording), Column 12, Lines 40-44).

Regarding claim 6, Kubo et al. discloses said first image capturing device is used for still image recording (image data obtained by the first sensor 58 is compressed and stored in memory card 92 (still image), Figure 10, Column 14, Lines 57-67), and said second image capturing device is used for capturing moving images (the image obtained from the second image sensor

63 is used as a preview image, which is displayed as motion picture (Column 12, Lines 40-44, Column 15, Lines 14-16); said second image capturing device also providing preliminary measurement for use in still image recording (the image obtained from the second sensor 63 is used as preview image, and is displayed on the display panel 66 so as to allow the user to check (preliminary measurement) the picture of the object before the shutter release button is fully depressed (still image recording), Column 12, Lines 40-44).

Regarding claim 7, Kubo et al. discloses at least one optical system for directing light representing an image of a subject to said first and said second image capturing means (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); a recording means (memory card 92, Figure 10) for recording data of images captured by said first image capturing means as still images and for recording data of images captured by said second image capturing means as moving images; and a display means (display 66, Figure 10, Column 12, Lines 50-52) for displaying image data.

Regarding claim 8, Kubo et al. discloses at least one optical system for directing light representing an image of a subject to said first and said second image capturing means (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); a recording means (memory card 92, Figure 10) for recording data of images captured by said first image capturing means as still images and for recording data of images captured by said second image capturing means as moving images; and a display means (display 66, Figure 10, Column 12, Lines 50-52) for displaying image data.

Regarding claim 9, Kubo et al. discloses at least one optical system for directing light representing an image of a subject to said first and said second image capturing means (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); a recording means (memory card 92, Figure 10) for recording data of images captured by said first image capturing means as still images and for recording data of images captured by said second image capturing means as moving images; and a display means (display 66, Figure 10, Column 12, Lines 50-52) for displaying image data.

Regarding claim 10, Kubo et al. discloses at least one optical system for directing light representing an image of a subject to said first and said second image capturing means (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); a recording means (memory card 92, Figure 10) for recording data of images captured by said first image capturing means as still images and for recording data of images captured by said second image capturing means as moving images; and a display means (display 66, Figure 10, Column 12, Lines 50-52) for displaying image data.

Regarding claim 11, Kubo et al. discloses at least one optical system for directing light representing an image of a subject to said first and said second image capturing means (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); a recording means (memory card 92, Figure 10) for recording data of images captured by said first image capturing means as still images and for recording data of images captured

Art Unit: 2612

by said second image capturing means as moving images; and a display means (display 66, Figure 10, Column 12, Lines 50-52) for displaying image data.

Regarding claim 12, Kubo et al. discloses at least one optical system for directing light representing an image of a subject to said first and said second image capturing means (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); a recording means (memory card 92, Figure 10) for recording data of images captured by said first image capturing means as still images and for recording data of images captured by said second image capturing means as moving images; and a display means (display 66, Figure 10, Column 12, Lines 50-52) for displaying image data.

Regarding claim 19, Kubo et al. discloses said image capturing apparatus includes an optical system (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); and said optical system includes means for dividing light representing an image of a subject and respectively directing the divided rays of light to said first and said second image capturing means (mirror M5, Figure 10).

Regarding claim 20, Kubo et al. discloses said image capturing apparatus includes an optical system (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); and said optical system includes means for dividing light representing an image of a subject and respectively directing the divided rays of light to said first and said second image capturing means (mirror M5, Figure 10).

Regarding claim 21, Kubo et al. discloses said image capturing apparatus includes an optical system (combination of photographing lens 54, mirror M5, prism 61, Figure 10, Column 12, Lines 47-52); and said optical system includes means for dividing light representing an image of a subject and respectively directing the divided rays of light to said first and said second image capturing means (mirror M5, Figure 10).

Regarding claim 22, Kubo et al. discloses said image capturing apparatus includes a first optical system (mirror M5, Figure 10) and a second optical system (prism 61, Figure 10); said first optical system supplying image data to said first image capturing means (mirror M5 supplies image data to the first image sensor 58, Figure 10); said second optical system supplying image data to said second image capturing means (prism 61 supplies image data to the second image sensor 63; and said processing means correcting a difference in image capturing position between said first optical system and said second optical system (Figure 17 shows the output C of the first image sensor 58 is overlapped with the output D of the second image sensor 63 to obtain one image, it indicated that the image processor 80 corrects a difference in image capturing position between two optical systems corresponding to first image sensor 58 and second image sensor 63, Column 17, Lines 15-25)).

Regarding claim 23, Kubo et al. discloses said image capturing apparatus includes a first optical system (mirror M5, Figure 10) and a second optical system (prism 61, Figure 10); said first optical system supplying image data to said first image capturing means (mirror M5 supplies image data to the first image sensor 58, Figure 10); said second optical system supplying image

data to said second image capturing means (prism 61 supplies image data to the second image sensor 63; and said processing means correcting a difference in image capturing position between said first optical system and said second optical system (Figure 17 shows the output C of the first image sensor 58 is overlapped with the output D of the second image sensor 63 to obtain one image, it indicated that the image processor 80 corrects a difference in image capturing position between two optical systems corresponding to first image sensor 58 and second image sensor 63, Column 17, Lines 15-25).

Regarding claim 24, Kubo et al. discloses said image capturing apparatus includes a first optical system (mirror M5, Figure 10) and a second optical system (prism 61, Figure 10); said first optical system supplying image data to said first image capturing means (mirror M5 supplies image data to the first image sensor 58, Figure 10); said second optical system supplying image data to said second image capturing means (prism 61 supplies image data to the second image sensor 63); and said processing means correcting a difference in image capturing position between said first optical system and said second optical system (Figure 17 shows the output C of the first image sensor 58 is overlapped with the output D of the second image sensor 63 to obtain one image, it indicated that the image processor 80 corrects a difference in image capturing position between two optical systems corresponding to first image sensor 58 and second image sensor 63, Column 17, Lines 15-25).

Regarding claim 26, Kubo et al. discloses said image capturing apparatus including first and second optical systems (mirror M5 and prism 61, Figure 10); said first optical system

Art Unit: 2612

supplying image data to said first image capturing device (mirror M5 supplies image data to the first image sensor 58, Figure 10); said second optical system supplying image data to said second image capturing device (prism 61 supplies image data to the second image sensor 63); said first and second optical systems having lines of sight displaced a distance apart (the light of sight from M5 to the first sensor 58 and the light of sight from prism 61 to the second image sensor 63 is displaced a distance apart, Figure 10); and said processing means including means for adjusting at least one of a dimension and a lateral displacement of an image captured by one of said first and second image capturing devices to match an image captured by the other thereof (the image data from the second image sensor 63 is expanded by the interpolation 81 so that the sizes of the pixel matrices of the first and second image to be equal, Column 17, Lines 1-5).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (U. S. Patent No. 6,639,626) in view of Suzuki et al. (U. S. Patent No. 4,805,024).

Regarding claims 13-15, Suzuki et al. fails to specifically disclose wherein said first image capturing means is a CCD solid image capturing device of the full-frame transfer type. However, Suzuki et al. discloses a still image pickup camera using a CCD solid image pickup

Art Unit: 2612

device of the frame transfer type (Column 1, Lines 8-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kubo et al. by the teaching of Suzuki et al. in order to obtain a still image of a moving object.

9. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (U. S. Patent No. 6,639,626) in view of Rhodes (U. S. Patent No. 6,654,057).

Regarding claims 16-18, Suzuki et al. fails to specifically disclose wherein said second image capturing means includes a CMOS-type solid image capturing device. However, Rhodes discloses the using of a CMOS imager for cameras (Column 1, Lines 45-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kubo et al. by the teaching of Rhodes in order to obtain a camera, which has small size and low cost (Column 1, Line 55 – Column 2, Line 6).

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al. (U. S. Patent No. 6,639,626) in view of Nonaka (U. S. Patent No. 5,986,764).

Regarding claim 25, Kubo et al. discloses said image capturing apparatus including first and second optical systems (mirror M5 and prism 61, Figure 10); said first optical system supplying image data to said first image capturing device (mirror M5 supplies image data to the first image sensor 58, Figure 10); said second optical system supplying image data to said second image capturing device (prism 61 supplies image data to the second image sensor 63); said first and second optical systems having lines of sight displaced a distance apart (the light of sight

from M5 to the first sensor 58 and the light of sight from prism 61 to the second image sensor 63 is displaced a distance apart, Figure 10).

Suzuki et al. fails to specifically disclose the processing means including means for calculating a range to an object based on known parameters of said distance and a zoomed field angle. However, Nonaka discloses a distance measurement device to determine the distance L to the subject (a range to an object), which based on the distance B between two lenses (distance apart between the first and second optical systems) and f/x (zoom field angle) as shown in equation (1), Figure 1, Column 5, Lines 10-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kubo et al. by the teaching of Nonaka in order to determine the distance to a subject using its image (Column 1, Lines 5-7).

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato (U. S. Patent No. 5,631,700) discloses a camera having preview function.

Muramoto (U. S. Patent No. 5,915,047) discloses an image pickup apparatus.

Glenn (U. S. Patent No. 6,266,093) discloses color video camera method and system.

Art Unit: 2612

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T NGUYEN whose telephone number is (703) 308-9297. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN

5/31/2004

*Luongtun Nguyen*

**LUONG T. NGUYEN  
PATENT EXAMINER**